

Querying Metrics from Prometheus

🕒 2 minute read ✓ page test

This task shows you how to query for Istio Metrics using Prometheus. As part of this task, you will use the web-based interface for querying metric values.

The `Bookinfo` sample application is used as the example application throughout this task.

Before you begin

- Install Istio in your cluster.
- Install the Prometheus Addon.
- Deploy the Bookinfo application.

Querying Istio metrics

1. Verify that the `prometheus` service is running in your cluster.

In Kubernetes environments, execute the following command:

```
$ kubectl -n istio-system get svc prometheus
```

NAME	TYPE	CLUSTER-IP	EXTER
NAL-IP	PORT(S)	AGE	
prometheus	ClusterIP	10.109.160.254	<none
>	9090/TCP	4m	

2. Send traffic to the mesh.

For the Bookinfo sample, visit

`http://$GATEWAY_URL/productpage` in your web browser or issue the following command:

```
$ curl "http://$GATEWAY_URL/productpage"
```



`$GATEWAY_URL` is the value set in the Bookinfo example.

3. Open the Prometheus UI.

In Kubernetes environments, execute the following command:

```
$ istioctl dashboard prometheus
```

Click **Graph** to the right of Prometheus in the header.

4. Execute a Prometheus query.

In the “Expression” input box at the top of the web page, enter the text:

```
istio_requests_total
```

Then, click the **Execute** button.

The results will be similar to:

Prometheus Alerts Graph Status Help

Enable query history

Try experimental React UI

Load time: 112 ms
Resolution: 15s
Total time series: 8

istio_requests_total

Execute - Insert metric at cursor

Graph Console

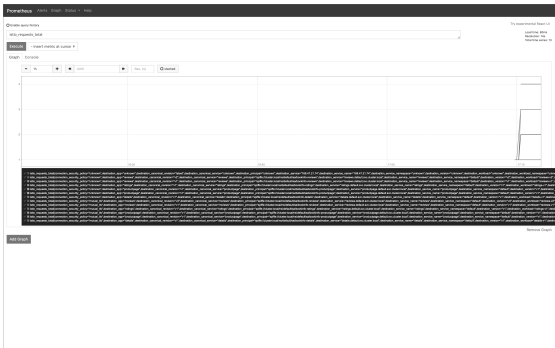
Monotonic

Series	Value
istio_requests_total{connection_security_policy="mutual_tls",destination_app="details",destination_canonical_service="details",destination_port="9080",destination_principal="spiffe://cluster.local/ns/default/sa/bookinfo-details",destination_service="details.default.svc.cluster.local",destination_service_namespace="default",destination_version="v1",destination_workload="details-v1",destination_workload_namespace="default",instance="10.12.2.13:15996",job="envoy-stats",namespace="default",pod_name="productpage-v1-78bfc8b8-4h7t",reporter="destination",request_protocol="http",response_code="200",response_flags=""},source_app="productpage",source_canonical_service="productpage",source_principal="spiffe://cluster.local/ns/default/sa/bookinfo-productpage",source_version="v1",source_workload="productpage-v1",source_workload_namespace="default"}	6
istio_requests_total{connection_security_policy="mutual_tls",destination_app="productpage",destination_canonical_service="productpage",destination_port="9080",destination_principal="spiffe://cluster.local/ns/default/sa/bookinfo-productpage",destination_service="productpage.default.svc.cluster.local",destination_service_namespace="default",destination_version="v1",destination_workload="productpage-v1",destination_workload_namespace="default",instance="10.12.1.15:15996",job="envoy-stats",namespace="default",pod_name="productpage-v1-78bfc8b8-4h7t",reporter="destination",request_protocol="http",response_code="200",response_flags=""},source_app="istio-ingressgateway",source_canonical_service="istio-ingressgateway",source_principal="spiffe://cluster.local/ns/istio-system/sa/istio-ingressgateway-service-account",source_version="unknown",source_workload="istio-ingressgateway",source_workload_namespace="istio-system"}	4
istio_requests_total{connection_security_policy="mutual_tls",destination_app="productpage",destination_canonical_service="productpage",destination_port="9080",destination_principal="spiffe://cluster.local/ns/default/sa/bookinfo-productpage",destination_service="productpage.default.svc.cluster.local",destination_service_namespace="default",destination_version="v1",destination_workload="productpage-v1",destination_workload_namespace="default",instance="10.12.1.15:15996",job="envoy-stats",namespace="default",pod_name="productpage-v1-78bfc8b8-4h7t",reporter="destination",request_protocol="http",response_code="200",response_flags=""},source_app="istio-ingressgateway",source_canonical_service="istio-ingressgateway",source_principal="spiffe://cluster.local/ns/istio-system/sa/istio-ingressgateway-service-account",source_version="unknown",source_workload="istio-ingressgateway",source_workload_namespace="istio-system"}	9

Prometheus Query Result

You can also see the query results

graphically by selecting the Graph tab underneath the **Execute** button.



Prometheus Query Result - Graphical

Other queries to try:

- Total count of all requests to the productpage service:

```
istio_requests_total{destination_service="productpage.default.svc.cluster.local"}
```

- Total count of all requests to v3 of the `reviews` service:

```
istio_requests_total{destination_service="reviews.default.svc.cluster.local", destination_version="v3"}
```

This query returns the current total count of all requests to the v3 of the `reviews` service.

- Rate of requests over the past 5 minutes to all instances of the `productpage` service:

```
rate(istio_requests_total{destination_service=~"productpage.*", response_code="200"}[5m])
```

About the Prometheus

addon

The Prometheus addon is a Prometheus server that comes preconfigured to scrape Istio endpoints to collect metrics. It provides a mechanism for persistent storage and querying of Istio metrics.

For more on querying Prometheus, please read their [querying docs](#).

Cleanup

- Remove any `istioctl` processes that may still be running using control-C or:

```
$ killall istioctl
```

- If you are not planning to explore any

follow-on tasks, refer to the `Bookinfo` cleanup instructions to shutdown the application.